

Radial Lead Type

Series: **GA** Type: **A**

■ Features

- Endurance : 105 °C 1000 h
- RoHS directive compliant



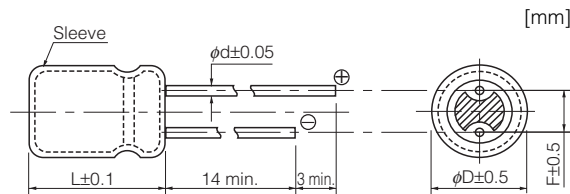
■ Specifications

| | | |
|-----------------------|--|------------------------------------|
| Category Temp. Range | -55 °C to +105 °C | |
| Rated W.V. Range | 10 V.DC to 50 V.DC | |
| Nominal Cap. Range | 0.1 μF to 220 μF | |
| Capacitance Tolerance | ±20 % (120 Hz/+20 °C) | |
| DC Leakage Current | I ≤ 0.01 CV or 3 (μA) After 2 minutes (Whichever is greater) | |
| tan δ | Please see the attached standard products list | |
| Endurance | After following life test with DC voltage and +105 °C±2 °C ripple current value applied (The sum of DC and ripple peak voltage shall not exceed the rated working voltage), for 1000 hours, when the capacitors are restored to 20 °C, the capacitors shall meet the limits specified below. | |
| | Capacitance change | ±20 % of initial measured value |
| | tan δ | ≤ 200 % of initial specified value |
| | DC leakage current | ≤ initial specified value |
| Shelf Life | After storage for 1000 hours at +105 °C±2 °C with no voltage applied and then being stabilized at +20 °C, capacitors shall meet the limits specified in Endurance. (With voltage treatment) | |

■ Frequency correction factor for ripple current

| W.V.(V.DC) | Cap (μF) | Frequency (Hz) | | | | |
|------------|------------|----------------|------|------|------|----------|
| | | 60 | 120 | 1 k | 10 k | 100 k to |
| 10 to 50 | 0.1 to 220 | 0.85 | 1.00 | 1.30 | 1.40 | 1.55 |

■ Dimensions in mm(not to scale)



| | (mm) | | | |
|--------------|------|------|------|------|
| Body Dia. φD | 4 | 5 | 6.3 | 8 |
| Lead Dia. φd | 0.45 | 0.45 | 0.45 | 0.45 |
| Lead space F | 1.5 | 2.0 | 2.5 | 2.5 |

Standard Products

| W.V. | Cap. (±20 %) | Case size | | Specification | | | Lead Length | | | | Part No. | Min. Packaging Q'ty | |
|------|-----------------|-----------|--------|---|-------------------------------|----------------------|-------------|------------|--------------|---------------|---------------|---------------------|--------|
| | | Dia. | Length | Ripple Current (120 Hz) (+105 °C) | tan δ (120 Hz) (+20 °C) | Endurance (hours) | Lead Dia. | Lead Space | | | | Straight Leads | Taping |
| | | | | | | | | Straight | Taping *B | Taping *H | | | |
| (V) | (μF) | (mm) | (mm) | (mA r.m.s.) | | | (mm) | (mm) | (mm) | (mm) | | | |
| 10 | 22 | 4 | 7 | 30 | 0.22 | 1000 | 0.45 | 1.5 | 5.0 | 2.5 | EEAGA1A220() | 200 | 2000 |
| | 33 | 5 | 7 | 50 | 0.22 | 1000 | 0.45 | 2.0 | 5.0 | 2.5 | EEAGA1A330() | 200 | 2000 |
| | 47 | 6.3 | 7 | 65 | 0.22 | 1000 | 0.45 | 2.5 | 5.0 | 2.5 | EEAGA1A470() | 200 | 2000 |
| | 68 | 6.3 | 7 | 75 | 0.22 | 1000 | 0.45 | 2.5 | 5.0 | 2.5 | EEAGA1A680() | 200 | 2000 |
| | 100 | 6.3 | 7 | 110 | 0.22 | 1000 | 0.45 | 2.5 | 5.0 | 2.5 | EEAGA1A101() | 200 | 2000 |
| | 220 | 8 | 7 | 160 | 0.22 | 1000 | 0.45 | 2.5 | 5.0 | 2.5 | EEAGA1A221() | 200 | 1000 |
| 16 | 10 | 4 | 7 | 30 | 0.18 | 1000 | 0.45 | 1.5 | 5.0 | 2.5 | EEAGA1C100() | 200 | 2000 |
| | 15 | 4 | 7 | 33 | 0.18 | 1000 | 0.45 | 1.5 | 5.0 | 2.5 | EEAGA1C150() | 200 | 2000 |
| | 22 | 5 | 7 | 50 | 0.18 | 1000 | 0.45 | 2.0 | 5.0 | 2.5 | EEAGA1C220() | 200 | 2000 |
| | 33 | 6.3 | 7 | 65 | 0.18 | 1000 | 0.45 | 2.5 | 5.0 | 2.5 | EEAGA1C330() | 200 | 2000 |
| | 47 | 6.3 | 7 | 77 | 0.18 | 1000 | 0.45 | 2.5 | 5.0 | 2.5 | EEAGA1C470() | 200 | 2000 |
| | 100 | 8 | 7 | 120 | 0.18 | 1000 | 0.45 | 2.5 | 5.0 | 2.5 | EEAGA1C101() | 200 | 1000 |
| 25 | 10 | 4 | 7 | 33 | 0.16 | 1000 | 0.45 | 1.5 | 5.0 | 2.5 | EEAGA1E100() | 200 | 2000 |
| | 15 | 5 | 7 | 45 | 0.16 | 1000 | 0.45 | 2.0 | 5.0 | 2.5 | EEAGA1E150() | 200 | 2000 |
| | 22 | 5 | 7 | 50 | 0.16 | 1000 | 0.45 | 2.0 | 5.0 | 2.5 | EEAGA1E220() | 200 | 2000 |
| | 33 | 6.3 | 7 | 75 | 0.16 | 1000 | 0.45 | 2.5 | 5.0 | 2.5 | EEAGA1E330() | 200 | 2000 |
| | 68 | 8 | 7 | 100 | 0.16 | 1000 | 0.45 | 2.5 | 5.0 | 2.5 | EEAGA1E680() | 200 | 1000 |
| 35 | 6.8 | 4 | 7 | 33 | 0.13 | 1000 | 0.45 | 1.5 | 5.0 | 2.5 | EEAGA1V6R8() | 200 | 2000 |
| | 10 | 5 | 7 | 35 | 0.13 | 1000 | 0.45 | 2.0 | 5.0 | 2.5 | EEAGA1V100() | 200 | 2000 |
| | 15 | 6.3 | 7 | 50 | 0.13 | 1000 | 0.45 | 2.5 | 5.0 | 2.5 | EEAGA1V150() | 200 | 2000 |
| | 22 | 6.3 | 7 | 70 | 0.13 | 1000 | 0.45 | 2.5 | 5.0 | 2.5 | EEAGA1V220() | 200 | 2000 |
| | 47 | 8 | 7 | 96 | 0.13 | 1000 | 0.45 | 2.5 | 5.0 | 2.5 | EEAGA1V470() | 200 | 1000 |
| 50 | 0.1 | 4 | 7 | 1.1 | 0.10 | 1000 | 0.45 | 1.5 | 5.0 | 2.5 | EEAGA1HR10() | 200 | 2000 |
| | 0.15 | 4 | 7 | 1.7 | 0.10 | 1000 | 0.45 | 1.5 | 5.0 | 2.5 | EEAGA1HR15() | 200 | 2000 |
| | 0.22 | 4 | 7 | 2.3 | 0.10 | 1000 | 0.45 | 1.5 | 5.0 | 2.5 | EEAGA1HR22() | 200 | 2000 |
| | 0.33 | 4 | 7 | 3.5 | 0.10 | 1000 | 0.45 | 1.5 | 5.0 | 2.5 | EEAGA1HR33() | 200 | 2000 |
| | 0.47 | 4 | 7 | 5 | 0.10 | 1000 | 0.45 | 1.5 | 5.0 | 2.5 | EEAGA1HR47() | 200 | 2000 |
| | 0.68 | 4 | 7 | 7 | 0.10 | 1000 | 0.45 | 1.5 | 5.0 | 2.5 | EEAGA1HR68() | 200 | 2000 |
| | 1 | 4 | 7 | 10 | 0.10 | 1000 | 0.45 | 1.5 | 5.0 | 2.5 | EEAGA1H1R0() | 200 | 2000 |
| | 1.5 | 4 | 7 | 16 | 0.10 | 1000 | 0.45 | 1.5 | 5.0 | 2.5 | EEAGA1H1R5() | 200 | 2000 |
| | 2.2 | 4 | 7 | 18 | 0.10 | 1000 | 0.45 | 1.5 | 5.0 | 2.5 | EEAGA1H2R2() | 200 | 2000 |
| | 3.3 | 4 | 7 | 22 | 0.10 | 1000 | 0.45 | 1.5 | 5.0 | 2.5 | EEAGA1H3R3() | 200 | 2000 |
| | 4.7 | 4 | 7 | 26 | 0.10 | 1000 | 0.45 | 1.5 | 5.0 | 2.5 | EEAGA1H4R7() | 200 | 2000 |
| | 6.8 | 5 | 7 | 35 | 0.10 | 1000 | 0.45 | 2.0 | 5.0 | 2.5 | EEAGA1H6R8() | 200 | 2000 |
| | 10 | 6.3 | 7 | 39 | 0.10 | 1000 | 0.45 | 2.5 | 5.0 | 2.5 | EEAGA1H100() | 200 | 2000 |
| 15 | 6.3 | 7 | 55 | 0.10 | 1000 | 0.45 | 2.5 | 5.0 | 2.5 | EEAGA1H150() | 200 | 2000 | |
| 22 | 8 | 7 | 70 | 0.10 | 1000 | 0.45 | 2.5 | 5.0 | 2.5 | EEAGA1H220() | 200 | 1000 | |
| 33 | 8 | 7 | 91 | 0.10 | 1000 | 0.45 | 2.5 | 5.0 | 2.5 | EEAGA1H330() | 200 | 1000 | |

When requesting taped product, please put the letter "B" or "H" between the "()". Lead wire pitch B=5 mm, H=2.5 mm.

Suffix "BQ" for ø8×7, 5mm pitch products

The taping dimensions are explained on EE189 of our Catalog. Please use it as a reference guide.